

incorporate the limitations of claims 2-8 from which it was dependent. Claim 18 has been amended to a method of use claim. No new matter has been added by these amendments.

Election/Restriction Requirement

The examiner has generated a generic concept inclusive of the elected species, compound 51 in FIG. 11. The following generic concept has been identified for examination. The compound as shown in claim 17 wherein R₂ and R₃ are as defined except that they are not X-Y-A; R₆, R₇ and R₈ are as defined, except that in group X-Y-A, A is oxygen, and Y and Z are as defined; and R₉ is as defined. The remaining subject matter stands withdrawn from consideration under 37 C.F.R. §1.142(b) as constituting other patentably distinct inventions.

The examiner states that "[t]he withdrawn subject matter of claims 17-19 is properly restricted as said subject matter differs in structure and element from the elected subject matter so as to be patentably distinct therefrom, i.e. a reference which anticipated the elected subject matter would not even render obvious the withdrawn subject matter and fields of search are not coextensive." (Official Action at 3.)

For the reasons on the record, applicants maintain their traversal of the restriction/election of species requirement. Claims 17-19 are objected to as containing non-elected subject matter. Applicants request that this objection be held in abeyance until patentable subject matter is determined.

Rejection Under §102

Claims 17-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Thurston et al., Chemical Communications, 563-565 (1996). The examiner states that Thurston et al. discloses a compound as claimed in claim 17 wherein "R₂, R₃, and R₉ are hydrogen; R₆ is hydrogen; R₇ is OR wherein R is methyl; R₈ is X-Y-A- defined as follows:

A is oxygen, Y is ethyl, Z [sic] is NHZ and Z is the nitrogen protecting group -C-EDTAEt₃.”
(Official Action at 3.)

Applicants respectfully submit that Thurston et al. does not disclose compounds of the present invention. The specification defines a “nitrogen protecting group” as having

the meaning usual in synthetic chemistry, particularly synthetic peptide chemistry. It means any group which may be covalently bound to the nitrogen atom of any grouping of the molecule, particularly of the amine grouping, and permits reactions to be carried out upon the molecule containing this protected grouping without its removal. Nevertheless, it is able to be removed from the nitrogen atom without affecting the remainder of the molecule. Suitable amine protecting groups for the present invention include Fmoc (9-fluoenylmethoxycarbonyl), Nvoc (6-nitroveratryloxycarbonyl), Teoc (2-trimethylsilylethyloxycarbonyl), Troc (2,2,2-trichloroethyloxycarbonyl), Boc (t-butyloxycarbonyl), CBZ (benzyloxycarbonyl), Alloc (allyloxycarbonyl) and Psec (2(-phenylsulphonyl)ethoxycarbonyl). Other suitable groups are described in Protective Groups in Organic Synthesis, T Green and P Wuts, published by Wiley, 1991 which is incorporated herein by reference.

(Specification at page 5, lines 5-21.)

Applicants respectfully submit that one of ordinary skill in the art would not view -COCH₂EDTAEt₃ as a nitrogen protecting group. This group cannot be removed from the nitrogen atom without affecting the remainder of the molecule. It can be cleaved by the use of a strong acid or strong base, but either of these reagents would open the B-ring (central 7-membered ring), either by breaking the imine bond or a bond adjacent to the carbonyl group. Thus, the group disclosed in Thurston et al. does not meet the definition of “nitrogen protecting group” in the specification. Applicants respectfully submit that Thurston et al. does not anticipate the claimed invention and request that the rejection be withdrawn.

Rejection Under §103

Claims 17-19 stand rejected under 35 U.S.C. §103 as being unpatentable over Thurston et al., Chemical Communications, 563-565 (1996). The examiner states that “Thurston et al. teach pyrrol benzodiazepine compounds which are useful as antitumour antibiotics. In Thurston et al., see page 563, column 1, first paragraph for the method of use,

and see page 563, compound 14 ... The prior art teaches a specific example of the instant claims when R2, R3, and R9 are hydrogen or methyl; R6, R7, and R8 are OR, wherein R is alkyl or X-Y-A- defined as follows: A is oxygen, Y is alkyl, Z [sic] is NHZ and Z is the nitrogen protecting group -C-EDTAEt3." (Official Action at 5.)

As is discussed above, Thurston et al. does not disclose a specific example of the instant claims. Nor does Thurston et al. teach or suggest a specific example within the scope of the claimed invention to one of ordinary skill in the art. The examiner asserts that Thurston et al. teaches positional isomers of the claimed compound and that it would be obvious to substitute the known claimed isomer for the structurally similar isomer taught in Thurston et al, "since such structurally related compounds suggest one another and would be expected to share common properties absent a showing of unexpected results." (Official Action at 6.) Applicants respectfully submit that Thurston et al. does not motivate one of ordinary skill in the art to make and/or use the claimed compounds. Thurston et al. does not teach or suggest a compound wherein A is NHZ and Z is a protecting group. Nor does it teach or suggest the other claimed compounds. Applicants respectfully request that the §103 rejection be withdrawn.

Rejection Under § 112

Claim 18 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully submit that the amendments to claim 18 have obviated the rejection and respectfully request that the rejection be withdrawn.

Claim Objections

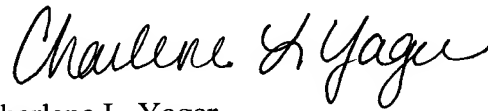
Claim 18 stands objected to under 37 C.F.R. § 1.75 as being a substantial duplicate of claim 17. Applicants respectfully submit that this objection has been obviated by the amendments to claim 18 and request that the objection be withdrawn.

Claims 17-19 stand objected to because claim 17 depends on claims 2-8 which are non-elected claims and claims 18 and 10 depend on claim 17. Applicants respectfully submit that this objection has been obviated by the amendments to claim 17 and request that the objection be withdrawn.

CONCLUSION

For the foregoing reasons, applicants respectfully submit that the claims are in a condition for patenting and request favorable action thereon.

Respectfully submitted,

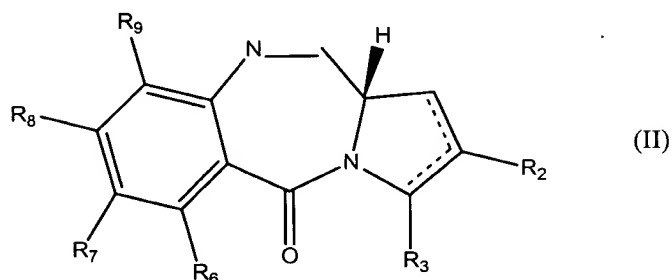


Charlene L. Yager
Reg. No. 48,887

Docket No.: 065435-9001
Michael Best & Friedrich LLP
One South Pinckney Street
P. O. Box 1806
Madison, WI 53701-1806
(608) 257-3501

Version with Markings to Show Changes Made

17. (Amended.) A compound of formula II:



wherein [R₂, R₃, R₆, R₇, R₈ and R₉ are as defined in any one of claims 2 to 8]

R₂ and R₃ are independently selected from: H, R, OH, OR, =O, =CH-R, =CH₂, CH₂-CO₂ R, CH₂-CO₂H, CH₂-SO₂R, O-SO₂R, CO₂R, COR and CN, and there is optionally a double bond between C1 and C2 or C2 and C3;

R₆, R₇, R₈ and R₉ are independently selected from H, R, OH, OR, halo, nitro, amino, Me₃Sn; or R₇ and R₈ together form a group -O-(CH₂)_p-O-, where p is 1 or 2;

where R is a lower alkyl group having 1 to 10 carbon atoms, or an aralkyl group of up to 12 carbon atoms, whereof the alkyl group optionally contains one or more carbon-carbon double or triple bonds, which may form part of a conjugated system, or an aryl group of up to 12 carbon atoms; and is optionally substituted by one or more halo, hydroxy, amino, or nitro groups, and optionally contains one or more hetero atoms, which may form part of, or be, a functional group; except that either:

(i) one or more of R₂, R₃, R₆, R₇, and R₈ are independently X-Y-A-, where X is selected from -COZ', NHZ, SH, or OH, where Z is either H or a nitrogen protecting group, Z' is either OH or an acid protecting group, Y is a divalent group such that HY = R, and A is O, S, NH, or a single bond; or

(ii) one or more of R₂, R₃, R₆, R₇, and R₈ are independently H-(T)_n-X'-Y-A- where X' is CO, NH, S or O; Y is a divalent group such that HY = R; A is O, S, NH or a single bond, T is a combinatorial unit, and n is a positive integer.

18. (Amended.) A method of therapy comprising administering a [A] compound of formula II as defined in claim 17 [for use in a method of therapy].